???

Contents

Acknowledgements		. 11
List of text figures .		6
List of plates		. 10
List of tables		. 10
Chapter 1. Introduct	ion	. 13
Chapter 2. The excav Introduction The excavation Sonda 12B:	Area SE of Feature 64 Feature 64 Postholes between Feature 64 and Palisade trench 606 The palisade trench and adjacent features	xxx
Sonda 12C:	Ditch 612 Area NE of the palisade trench Ditch circuits G and H (Red Ditch) Sonda 19 Sonda 12B Sonda 27	
Sonda 12E Sonda 34 Sonda 35 (Oro	Interpretation of the Red Ditch excavations chard trench)	
Chapter 3. Geophysi Orchard Lower field Interpretation	cal surveys of 1992 and 1993	xxx
Pottery	nt	XXX
		xxx
Chapter 6. The huma	an remains from Velim-Skalka, by Christopher J. Knüsel	xxx
_	l bones from Velim Skalka (British excavations 1992-95): a palaeoeconomic report, Outram and Stephanie Knight	xxx
	ison of human and animal deposition at Velim-Skalka through an integrated	YYY

VELIM VIOLENCE AND DEATH IN BRONZE AGE BOHEMIA

Chapter 9.	Carbonized plant macrofossils from Velim Skalka: preliminary observations, by Carol Palmer
Th Th Th Cu An	. Interpretation and discussion
Chapter 11	. Velim and its surroundings, by Radka Šumberová xxxx
De Ide Bu Vel	. The wider scene
Bibliograp	hyxxxx
	ss
List of Fi	gures
Fig. 1.2. Lo	ocation map showing the position of Kolín in central Europe ocation map for Velim in east-central Bohemia calka hill showing excavation and survey areas discussed in this report
Fig. 2.2. Sc Fig. 2.3. Sc Fig. 2.4. Sc	osition of trenches (Sondy) within the excavated area of Velim-Skalka onda 12B, general plan onda 12B, south-western end onda 12B, Objekt 64, south-west facing section at upper excavation level
Fig. 2.6. Sc	onda 12B, plan of Objekt 64 (north and south pits) onda 12B, Objekt 64, south pit showing child skeletons and pottery scatter onda 12B, Objekt 64, south pit, north-facing section
Fig. 2.8. So Fig. 2.9. So Fig. 2.10. S Fig. 2.11. S	onda 12B, Objekt 64, north pit, sections across pit: a) south-west facing; b) north-west facing onda 12B, Objekt 64, north pit, plan during excavation onda 12B, Objekt 64, north pit, plan at a later stage of excavation onda 12B, central area, plan showing pits and post-holes between Objekt 64 and Ditch 612
Fig. 2.13. S	Sections of pits and post-holes shown in Fig. 2.11 Sonda 12B, central area, plan at a lower level than Fig. 2.11, showing pits and post-holes Sections of pits and post-holes shown in Fig. 2.13
Fig. 2.16. S Fig. 2.17. S	Sonda 12B, central area, plan of palisade trench 606 showing location of section trenches sonda 12B, central area, plan of palisade trench 606 showing location of section trenches sonda 12B, palisade trench 606 and adjacent features sections through palisade trench 606
Fig. 2.20. I Fig. 2.21. I	Ditch 612 and palisade trench 606, north-east facing section Ditch 612 and palisade trench 606, south-west facing section Ditch 612 and palisade trench 606, south-west facing section Ditch 612 and palisade trench 606, north-east facing section
Fig. 2.23. I Fig. 2.24. I	Ditch 612, north-facing section Ditch 612, plan in trenches A and G -b. Ditch 612, terminal in trench D at two stages of excavation
Fig. 2.26. S	Sonda 12C, overall plan Sonda 12C, south-eastern part

- Fig. 2.28. Sonda 12C, plan and sections of features in south-eastern part of trench
- Fig. 2.29. Sonda 12C, plan and section of context 2024
- Fig. 2.30. Sonda 12C, north-western area
- Fig. 2.31. Sonda 12C, features in the north-western area
- Fig. 2.32. Sonda 12C, palisade trench 2502 before excavation, showing location of sections
- Fig. 2.33. Sonda 12C, palisade trench 2502 after excavation
- Fig. 2.34, a-j. Sections through post-holes in palisade trench 2502
- Fig. 2.35. Sonda 12C, north-western area showing location of section trenches
- Figs. 2.36 2.39 Sonda 12C, north-western area, trench A, plans at successive stages of excavation
- Fig. 2.40, a-b. Sonda 12C, trench A, sections through ditch 2560. A: south-west facing; B: north-east facing
- Fig. 2.41 2.42. Sonda 12C, north-western area, trench B, plans at successive stages of excavation
- Fig. 2.43. Sonda 12C, trench B, sections through ditch 2616. Upper: north-east facing; lower: south-west facing
- Fig. 2.44. Sonda 12C, trench B, bone deposit in trench B
- Fig. 2.45. Sonda 12C, north-western area, trenches C and D
- Fig. 2.46. Sonda 12C, trenches C and D, sections of partially excavated ditch
- Fig. 2.47. Sonda 19, plan showing Ditch circuits G (45) and H (45A) (the "Red Ditch")
- Fig. 2.48. Sonda 19, north-facing section
- Fig. 2.49. Sonda 19, bone deposit on bottom of outer ditch (H / 45A)
- Fig. 2.50. Sonda 12B, Řez 5, north-east facing section
- Fig. 2.51. Sonda 12B, Red Ditch section, plan
- Fig. 2.52. Sonda 12B, Red Ditch section, north-facing section
- Fig. 2.53. Sonda 27, Řez 1, south-facing section
- Fig. 2.54. Sonda 12B/C, plan
- Fig. 2.55. Sonda 12E, plan
- Figs 2.56 2.57. Sonda 12E, pit sections
- Fig. 2.58. Sonda 34, plan
- Fig. 2.59. Sonda 34, pit sections
- Fig. 2.60. Sonda 34, north-western area, plan
- Fig. 2.61. Sonda 34, ditch 4026, east-facing section
- Fig. 2.62. Sonda 34, pit 4028, south-facing section
- Fig. 3.1. Velim-Skalka, geophysical survey area in orchard
- Fig. 3.2. Velim- Dolní Nouzov, geophysical survey area
- Fig. 4.1. Finds categories in percent
- Fig. 4.2. Sherd numbers by fabric
- Fig. 4.3. Sherd weight by fabric
- Fig. 4.4. Average sherd weight by fabric
- Fig. 4.5. Fabric group percentage representation
- Fig. 4.6. Average sherd weight by fabric group
- Fig. 4.7. Numbers of rim types by fabric group
- Fig. 4.8. Numbers of base types by fabric group
- Fig. 4.9. Numbers of handle and knob types by fabric group
- Fig. 4.10. Numbers of decorative elements by fabric group
- Fig. 4.11. Percentage representation of vessel parts
- Fig. 4.12. Numbers of vessel parts
- Fig. 4.13. Rim numbers by type
- Fig. 4.14. Rim types
- Fig. 4.15. Handle and knob numbers by type
- Fig. 4.16. Handle and ledge types
- Fig. 4.17. Base numbers by type
- Fig. 4.18. Decorative element numbers by type
- Fig. 4.19. Decorative element types 1-7
- Fig. 4.20. Decorative element types 8-23
- Fig. 4.21. Vessel forms: jugs, cups, biconical vessels and amphorae
- Fig. 4.22. Vessel forms: jars, bowls and other forms
- Fig. 4.23. Pot forms from Objekt 64 North pit, in stratigraphical order
- Fig. 4.24. Pot forms from Ditch 612, in stratigraphical order

Fig. 5.1. Probability distributions for radiocarbon dates from Velim-Skalka

VELIM VIOLENCE AND DEATH IN BRONZE AGE BOHEMIA

- Fig. 6.1. Distal condylar surface of a human femur bearing evidence of osteoarthritic change
- Fig. 6.2. Cattle femoral caput with eburnation indicative of osteoarthritis
- Fig. 6.3. Frontal bone from a child exhibiting a thickened diploë layer indicative of iron deficiency anaemia
- Fig. 6.4. Human frontal with osteomata (benign tumours)
- Fig. 6.5. New bone formation on the visceral surface of a pig rib
- Fig. 6.6. New bone formation on the visceral surface of a cattle rib
- Fig. 6.7. Kostra 41, a 5 to 6-year-old child in situ
- Fig. 6.8. Kostra 46, a three to six-month old infant in situ
- Fig. 6.9. Kostra 48, the articulated remains of an adult and individual 47a, a 6 to 8 year-old child in situ
- Fig. 6.10. Close-up of Fig. 6.9 showing the flexed lower limbs of Kostra 47a in a squatting position
- Fig. 7.1. Proportions of species, as quantified by NISP and MAU, for all contexts.
- Fig. 7.2. A comparison of proportions of the four main species, as quantified by NISP, between objekts 64, 45, 612
- Fig. 7.3. Element abundance, as quantified by MAU, for all contexts and species.
- Fig. 7.4. % survival of cattle by fusion stage (N=404)
- Fig. 7.5. % survival of ovicaprids by fusion stage (N=157)
- Fig. 7.6. % survival of pigs by fusion stage (N=175)
- Fig. 8.1. An example of Dobney and Rielly's (1988) bone zonation for the os coxae and its adapted human form
- Fig. 8.2. Human element representation at Velim-Skalka
- Fig. 8.3. Graph of composition (Human versus Animal NISP)
- Fig. 8.4. Graph of the proportions of the five main animal species (by NISP)
- Fig. 8.5. Pie chart showing the distribution of human bone by feature (numbers indicate NISP by feature and percentage of NISP for the whole human bone assemblage)
- Fig. 8.6. Graph of human part representation and % completeness
- Fig. 8.7. Graph of all animal part representation and % completeness
- Fig. 8.8. Graph of cattle part representation and % completeness
- Fig. 8.9. Graph of ovicaprid part representation and % completeness
- Fig. 8.10. Graph of pig part representation and % completeness
- Fig. 8.11. Graph of horse part representation and % completeness
- Fig. 8.12. Graph comparing proportions butchered, all species
- Fig. 8.13. Graph of proportions of butchery type
- Fig. 8.14. Diagram of human trauma
- Fig. 8.15. Human rib with two parallel cutmarks
- Fig. 8.16. Scanning electron micrograph x 10 of the human rib cutmarks depicted in Fig. 8.15
- Fig. 8.17. Scanning electron micrograph x 50 of the human rib cutmarks depicted in Fig. 8.15
- Fig. 8.18. Scanning electron micrograph x 10 on a human rib fragment bearing marks from excavation trowel damage
- Fig. 8.19. Three incised cutmarks on the posterior proximal aspect left human femur
- Fig. 8.20. Scanning electron micrograph of the incised cutmarks on a proximal left human femur depicted in
- Fig. 8.21. Traumatic decapitation-type injury to the gonial angle of a human mandible
- Fig. 8.22. Left parietal fragment bearing evidence for linear sharp force traumatic injury with crushing of the surrounding ectocranial bone
- Fig. 8.23. Ectocranial view of the same lesion depicted in Fig. 8.23 and 8.24, with the internal bevel
- Fig. 8.24. Photograph of cutmarks located in the vicinity of the lesion depicted in Figs 8.22 and 8.23
- Fig. 8.25. Scanning electron micrograph of the cutmarks depicted in Fig. 8.24
- Fig. 8.26. Depressed penetrating injury to the ectocranial surface of the left parietal with a radiating fracture line revealing the diploë layer beneath
- Fig. 8.27. View of the diploë layer with a 'bulb of percussion'-like appearance of the same specimen depicted in 8.26
- Fig. 8.28. Endocranial surface hinge fracture with a portion of incomplete bevel produced by shear forces
- Fig. 8.29. Diagram of cattle butchery
- Fig. 8.30. Diagram of ovicaprid butchery
- Fig. 8.31. Diagram of pig butchery
- Fig. 8.32. Diagram of horse butchery
- Fig. 8.33. Summary diagram of animal butchery
- Fig. 8.34. Interpretation diagram of animal butchery
- Fig. 8.35. Graph of burning proportions human/animal

- Fig. 8.36. Graph of proportions of burning type by context
- Fig. 8.37. Graph of proportions of burning type by species
- Fig. 8.38. Diagram of burning positions of human skeleton
- Fig. 8.39. Heavily calcined human intermediate phalanx
- Fig. 8.40. Human femur fragment with evidence of scorching
- Fig. 8.41. The same specimen as depicted in Fig. 8.40 showing the scorched cancellous bone within the femoral fragment
- Fig. 8.42. Scanning electron micrograph image of root etching
- Fig. 8.43. Graph of root etching and gnawing human/animal
- Fig. 8.44. Graph of root etching and gnawing by context
- Fig. 8.45. A distal right human humerus with abrasions on the anterior diaphysis
- Fig. 8.46. Graph of fracture type by species
- Fig. 8.47. Graph of animal fractures high marrow/low marrow
- Fig. 8.48. Graph of human fractures high marrow/low marrow
- Fig. 8.49. Morlan's percentage completeness for human remains
- Fig. 8.50. Fracture type proportions for human remains
- Fig. 8.51. NISP for North and South pits and Sonda 12C
- Fig. 8.52. Percentage completeness for human remains from Sondage 12B and 12C
- Fig. 8.53. Butterfly fracture from the diaphysis of a human humerus from Context 12/503
- Fig. 8.54. Helical fracture from a human right femoral fragment that also bears an impact from Context 12/2615
- Fig. 8.55. Helical fracture from a human right femoral fragment that also bears an impact from Context 12/221
- Fig. 8.56. Cut-marked human proximal left femur with dry fracture
- Fig. 8.57. Close-up of the dry fracture present on the femur depicted in Fig. 8.56
- Fig. 8.58. NISP for graph of fractures by context for identified animal
- Fig. 8.59. Graph of fractures by context for unidentified fragments
- Fig. 8.60. Graph of fragment sizes by context
- Fig. 8.61. The assemblages from Velim-Skalka plotted in the feasible regions of an attritional cemetery (A), a predicted living group (B), and historical warfare-related groups (C) (after Bishop and Knüsel 2005)
- Fig. 9.1. Abaxial view of a spikelet base of the 'new' type glume wheat (Jones et al. 2000)
- Fig. 9.2. Abaxial views of (left to right) einkorn (T. *monococcum*), emmer (*T. dicoccum*) and the 'new' type glume wheat spikelet bases from Velim Skalka context 640, Sonda 12
- Fig. 9.3. Adaxial views of the spikelet bases shown in Fig. 9.2
- Fig. 9.4. Lateral views of the spikelet bases shown in Figs 9.2 9.3
- Fig. 10.1. Velim-Skalka: plan showing all excavated areas
- Fig. 11.1. Extract from 1st Military Survey of Bohemia (1764-68)
- Fig. 11.2. Location of the outermost ditch circuit enclosing the area from Skalka to Velim village
- Fig. 11.3. Kolín district, showing findspots of the Tumulus and Lausitz cultures

Plates

- Plate 1. Pottery: cups (1-26, 29-32), jars (27-28)
- Plate 2. Pottery: jars (1-6), jug (7), jars and storage vessels (8-16)
- Plate 3. Pottery: jugs (1, 6-7, 12), amphorae (2-5, 8-11, 13-16)
- Plate 4. Pottery: large storage vessels
- Plate 5. Pottery: biconical vessels and amphorae
- Plate 6. Pottery: fingernail and finger-impressed decoration, cordons
- Plate 7. Pottery: handles, ledges and knobs
- Plate 8. Pottery: incised line and groove decoration
- Plate 9. Pottery: pricked and bossed decoration, and perforated sherds
- Plate 10. Pottery: amphora (1), bases (2-16)
- Plate 11. Pottery: bowls (1-2, 5, 7-15), conical cups (3-4, 6), miniature vessels (16-17), jars (18-22), amphorae (23-31)
- Plate 12. Pottery: rims: everted, flaring, horizontal, bowls, and straight
- Plate 13. Pottery: rims: incurving, straight, carinated vessels, bellied vessels
- Plate 14. Miscellaneous finds: flint (1-3), bone (4-6), copper alloy (7-23), fired clay (24-35), iron (36-38)

VELIM VIOLENCE AND DEATH IN BRONZE AGE BOHEMIA

- Plate 15. Figurine 95/1937
- Plate 16. Ceramic discs (1-9, 11-13), perforated discs or whorls (10, 14-15), stone (16-21)
- Plate 17. Querns (1-2), clay weight fragments (3-4)

Colour plates

- Colour Plate 1. A. Aerial view of Skalka from the south-west, 1993; B.View of Skalka from the east; C. Sonda 12B, Objekt 64, South pit, showing upper levels of Kostra (skeleton) 41; D. Sonda 12B, Objekt 64, South pit, showing context 234 (Kostra 41) in matrix 220
- Colour Plate 2. A. Sonda 12B, Objekt 64, North pit viewed from north, at level of context 3009; B. Sonda 12B, Objekt 64, North pit viewed from south, at level of context 3012; C. Sonda 12B, Objekt 64, North pit viewed from west, completely excavated
- Colour Plate 3. A. Sonda 12B, Red Ditch, north-facing section, north-west part; B. Sonda 12B, Red Ditch, south-facing section, detail showing lumps of coloured marl; C. Sonda 12B, Red Ditch, north-facing section, detail from the section shown in A above; D. Sonda 12B, Red Ditch, basal deposit 117 viewed from north-west
- Colour Plate 4. A. Sonda 12B, Ditch 612, section in trench d, viewed from south-west; B. Sonda 12C, palisade (prior to excavation) viewed from south; C. Sonda 12C, trench B, context 2636 (with parts of Kostra 47a, 47b and 48); Sonda 12B/12E, pit rows viewed from south

Tables

- Table 4.1. Breakdown of finds by material
- Table 4.2. Numbers of sherds, weight and average sherd weight by fabric
- Table 4.3. Pottery groups illustrating recorded minimum and maximum values for dimension and thickness compared with overall values for sherd size and thickness for the whole assemblage
- Table 4.4. Dimensions of clay discs
- Table 5.1. Radiocarbon dates from Velim-Skalka
- Table 7.1. Species list and quantification (NISP and MAU) for all contexts
- Table 9.1. Summary table of the distribution and concentration of carbonized plant macrofossils in the sampled contexts from Velim Skalka.